

Date:

Kinetic Theory of Matter

Directions: Use the websites listed to answer the questions or fill in the notes that follow each.

Part A

www.harcourtschool.com/activity/states_of_matter/

Identify the 3 phases of matter and describe, in words, each of them by how the atoms and molecules are moving in each phase and draw a picture of their particles.

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Part B

<http://www.chem.purdue.edu/gchelp/atoms/states.html>

Complete each of the following statements with the phase of matter that it best describes.

1. If the atoms in this substance have a lot of energy and are spread out all over the place than it is a _____.
2. If the substance has no definite volume or shape and will expand to fill the container that it is in it will be a _____.
3. If a substance has a definite volume and a definite shape than it may be a _____.
4. If the atoms in this substance are vibrating in place and not flowing past one another than it is a _____.
5. If the atoms in this substance are able to flow around one another yet still remain packed together tightly than it is a _____.
6. If the substance has a definite volume but will change its shape to fit the container that it is held in then it will be a _____.

Part C

http://mutuslab.cs.uwindsor.ca/schurko/animations/waterphases/status_water.htm

1. What happens to the phases of the molecules as the temperature rises from 0-100°C?
2. What happens to the movement of the molecules as the temperature rises from 0-100°C?

Part D

<http://www.mansfieldct.org/schools/mms/staff/hand/atomsheat.htm>

1. How do the atoms move in something that is COLD? (fast or slow?)
2. How do atoms move in something that is HOT? (fast or slow?)

Part E

http://www.classzone.com/books/ml_science_share/vis_sim/mem05_pg101_kintheory/mem05_pg101_kintheory.html

Move the temperature slider with you mouse and watch how the particles are affected in the container.

1. When did the particles move the fastest - at a HIGH or LOW temperature?

Part F

<http://www.mhhe.com/physsci/chemistry/essentialchemistry/flash/gasesv6.swf>

Click the buttons on the bottom to change the conditions in the container.

1. What happens to the particles when you increase the pressure at constant temperature?
2. What happens to the particles when you increase the temperature at constant pressure?
3. What happens to the particles when you increase the temperature at constant volume?
4. What happens to the particles when you increase the number of gas particles?